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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

REPORT

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COUNTRY Estonia (USSR)

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SUBJECT Maardu Phosphorite Mine

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SUPPLEMENT TO REPORT NO.

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THIS IS UNEVALUATED INFORMATION

BACKGROUND

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work began as exploratory mining, and production gradually increased. By June of 1937, taking out about 50 tons each 24-hour period. This was unprocessed. Practically the whole production went into the domestic Estonian fertilizer market at the time. This plant was demolished by fire in 1938 and never rebuilt.

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LOCATION OF MAARDU MINE

4. Maardu is located 15 kilometers east of Tallin on the main highway between Tallin and Narva (and also on to Leningrad). The mine is on the left side of the highway toward the Finnish Gulf, which is, incidentally, two kilometers north of the mine.

5. The Phosphorite Company directors had been planning to reengage in mining after the Ulgaste fire. some consideration was given to opening

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25 YEAR RE-REVIEW

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a mine in the Kohtla Yarve area. Explorations there had proven the whole area to be rich in phosphorite; in fact, probably the richest and easiest to mine in Estonia. /See Diagram sketch at end of report/. However, the directors of the company wanted the mine to be close to Tallin, so the Maardu site was decided upon. [redacted] 25X1
[redacted] if the Ulgaste mine had not been destroyed by fire, the Maardu mine 25X1
probably would not have been opened up. Maardu was the only phosphorite mine in Estonia in 1944.

CAPACITY

6. The Maardu mine was designed to produce 1,500 tons of phosphorite each 24 hours. Complete processing was planned to be done at the mine.

7. Construction and preliminary mining work was underway from 1938 to 1941. It should be borne in mind that it takes about two years to put a phosphorite mine in operation.

8. [redacted] the Maardu deposit covers an area of about 12 square kilometers 25X1
and is good for 50 years or more as a producer.

NUMBER OF EMPLOYEES:

9. By 1941 [redacted] 200 miners at work, producing about 200 tons of phosphorite each 25X1
24 hours. No processing was done meanwhile for all of the machinery was not installed and there was not a sufficient amount of phosphorite on hand to efficiently process. Therefore, the material was being stored to await a suitable stockpile 25X1
to begin operations and to complete machine installations.

[redacted]

12. Under German authority production was stepped up to 300 tons per 24-hour period. All of this raw material was sent to Germany for processing.

EXTRACTION

13. The Maardu phosphorite area was located on a hillside about 30 meters above the water level. Extraction was made by digging down to a depth of about 15 meters and then running slopes into the hillside. Conveyor belts carried the phosphorite bearing earth to small "donkey"-type cars which were drawn by small engines to the stockpile. The height of the slopes varied from 80 centimeters to two and one half meters. Timbers were used to shore up the limestone and earth in the slopes. /See diagram at end of report/

MACHINERY AND EQUIPMENT

14. All machinery and equipment was modern and new in 1938. It was well maintained even under the Germans. [redacted] in 1944 it was in excellent condition. It had 25X1
been well maintained.

TRANSPORTATION

15. A special, narrow-gauge track had been laid from Tallin to the Maardu mine. The water at the Gulf of Finland, two kilometers away, was too shallow to permit ships to be used for transport.

16. It had been planned to move the phosphorite by rail to Tallin where it could be

shipped to [redacted] German markets, the ultimate destinations.

QUALITY OF PRODUCT

17. The Maardu phosphorite deposits were exceedingly rich and, next to deposits in the Kohtla Yarve district, the richest in the world. This is based on the comparison of the facility of processing, for phosphorite is made up of calcium shell deposits mixed with sand and earth, about 30% shell deposit to 70% sand or earth. While other mines may have the same percentage of shell, the Maardu mine was of the quality that produced 33% P_2O_5 after processing. Less processing was needed, also.

18. The Kohtla Yarve deposits compared with the Maardu deposit in quality.

HEALTH AND SAFETY PRECAUTIONS AT MAARDU

19. By 1944 there were accommodations at the mine to house about 50 families. The bulk of this housing was of barracks type and had been constructed by the Germans. Every worker was insured. There was a first aid dispensary at the mine as well as an ambulance to transport emergency cases to Tallir.

20. The percentage of accidents was very small because of precautions taken and good mine construction. Workers used leather helmets in the mines. There was very little water in the mines and this was mostly "run off". It was drained from the hillside slopes by means of ditches graded about a drop of one meter per one thousand meters. Timber shoring was used to keep the slopes clear.

[redacted]

DIAGRAMS OF PHOSPHORITE DEPOSITS AT ULGASTE, MAARDU AND KOHTLA YARVE

25X1

1. Ulgaste

Rubble & Earth	1.00 meter
Sandstone	1.00 meter
Phosphorite	.20 meter
Sandstone	1.00 meter
Phosphorite	.80 meter

2. Maardu

Rubble & Earth	1.00 meter
Sandstone	1.00 meter
Phosphorite	1.00 meter

3. Kohtla Yarve

Rubble & Earth	1.00 meter
Phosphorite	1.50 meter

23. As can be seen from the above sketches, the Kohtla Yarve deposits are easiest to mine since the phosphorite is just under the layer of rubble and earth. However, the area is too far from Tallin.

24. The Maardu deposits are the next best for mining while the Ulgaste deposit has two layers with sandstone in between.

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